

**M. Tech.-I (Electrical -Power System) (CBCS – 2015 Course) :**  
**WINTER - 2018**  
**SUBJECT : ADVANCED MICROCONTROLLERS AND APPLICATIONS**

Day : Friday  
Date : 07/12/2018

**W-2018-3126**

Time : 11.00 AM TO 02.00 PM  
Max. Marks : 60

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**N. B. :**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Answers to both the sections should be written in the **SEPARATE** answer books.
  - 4) Assume suitable data if necessary.
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**SECTION - I**

**Q. 1** Explain any 5 instructions of PIC microcontroller. **(10)**

**OR**

Explain Harvard architecture of PIC microcontroller. **(10)**

**Q. 2** Explain synchronous serial port. **(10)**

**OR**

Explain serial peripheral interface. **(10)**

**Q. 3** Explain lamp dimmer using PIC microcontroller. **(10)**

**OR**

Explain LCD interfacing with PIC microcontroller. **(10)**

**SECTION - II**

**Q. 4** Explain ARM design philosophy. **(10)**

**OR**

Explain AVR architecture. **(10)**

**Q. 5** Explain tasks and threads. **(10)**

**OR**

Write a note on RT Linux. **(10)**

**Q. 6** Write a note on RTOS (Real Time Operating System). **(10)**

**OR**

Explain how to select software architecture. **(10)**

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